

Cow Testing Associations in Ohio

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What Is a Cow-testing Association?

A cow-testing association is a group of dairymen, usually 26 in number, that are organized for one year, for the purpose of improving their dairy herd and dairy conditions thru monthly milk, butterfat, feed, and profit or loss records of each individual cow in a member's herd, and thru a study of selection, breeding, and feeding.

Why a Cow-testing Association?

Cow-testing associations were first organized in Denmark and Sweden. With the aid of such organizations, these two countries were able to increase the production of their cows about 75 percent. About 15 years ago, the idea was brought to this country by a Dane, Mr. Helmer Rabild, who fathered the idea in Michigan, and there organized the first cow-testing association in America. After this association had operated successfully for several years, Mr. Rabild was employed by the Dairy Division of the United States Department of Agriculture, where he had charge of this work until recently.

During the year 1909 the first cow-testing association was organized in this state in Geauga County. Since then, the work has gradually developed in all parts of the state.

The object of such organizations is to provide means and methods for improving the dairy qualities of the herds of its members. This is accomplished by periodically weighing and testing each cow's milk, and making a record of the kind and value of feed consumed. On the basis of such data, unprofitable cows may be eliminated and feeding done more economically.

The purpose of such organizations is to stimulate the dairy business by getting the members more interested in their dairy herds, and better acquainted with individual cows' records. In a short time, new members come to realize that their judgment in selecting the highest producing cows is worth but little. Then, too, their neighbors who are not members soon become interested by reading the published monthly reports and hearing the members discuss the records of their high-producing cows. For instance, Mr. Jones will meet Mr. Smith at a gathering of some kind, and in the course of conversation will say: "I had four cows in the 50-pound list last month." Such talk starts non-members thinking more about their dairy herds, and wondering if they have any such cows.

How are the Records Obtained?

The cow-testing association employs a supervisor who spends one day a month at each member's farm keeping monthly milk, butterfat, feed, and profit or loss records of individual cows.

The supervisor reaches the farm sometime in the afternoon, and takes a one-day milk, butterfat, and feed record of each cow. Using this record as an average, he multiplies it by the number of days in the month, which constitutes the cow's monthly record. Over several months, such a record will check within 2 percent of a semi-official record.

Where daily milk records are kept by the owners, the supervisor will use these records; but in such case, the herd record book cannot be completed until the following month.

When the 12 months are completed, the members will receive the monthly and yearly records of each cow, as well as a herd summary.

How An Ideal Cow-testing Association Operates.

In an ideal cow-testing association there are 26 members. These members should cooperate in making the dairy business in their community as profitable as possible. Each member can help by eliminating the unprofitable cows from his own herd, and by comparing the record of his herd with those of all other herds in the association. Members should not only study their record books but the ledger as well, and adopt the most profitable system of feeding possible. Monthly or quarterly meetings should be held and attended by all members. At these meetings the low herds should be discussed and methods suggested for their improvement.

At the end of the first six months, a financial statement of the association should be presented. All dues for this period, if not already paid, should be paid at this meeting. If the financial statement shows the association to be behind after all dues are paid, an assessment should be made. At the end of the eleventh month a similar financial statement of the second six months should be presented and all financial matters should be straightened up with the exception of the tester's last month's salary and bonus, and an amount to cover these items should be in the bank ready for the secretary-treasurer to check on. At this meeting the association should be reorganized for another year and all members should continue the work unless they are selling their herd. In this case other members should be invited to join. When the association has completed its year's work, it should be ready to start off another year with full membership.

Another point which should be emphasized is that in an ideal association the same breed of cattle ought to be bred and the same line of breeding followed by all the members. By practicing this system of breeding, a bull association can be organized and the use of meritorious bulls secured at a low cost.

It has been stated that the ideal number of members in an association is 26. This number has been found to be the most practical, as it gives the supervisor one herd for each working day in the month. A lesser number in the association means more expense to each member. However, 30 cows is the maximum number that can be tested in one day, so that if any of the herds are sufficiently large to require two or more days of the supervisor's time, the membership would be arranged accordingly.

What are the Benefits of a Cow-testing Association?

Dairymen who belong to an ideal cow-testing association reap the following benefits:

1. They receive a yearly milk and butterfat record of each cow.
2. They obtain a profit or loss record of each cow.
3. They know the good producing cows from the poor producing cows.
4. They can feed according to a cow's production, which is the only economical and scientific way of feeding.
5. They can build up a higher producing herd by knowing the good cows and raising their heifer calves.
6. They can select the good sires by comparing the records of the heifers with their dams.
7. They know whether or not they are getting a square deal at the creamery or milk plant.
8. They get more money when they sell a cow that has a good cow-testing association record than a similar one with no record.
9. They have a good chance of selling their surplus stock at a good price, especially where the association has made a remarkable record such as the following, which is the Barnesville Cow-testing Association record for the past nine years.

Year	Av. Lbs. Milk per Cow	Av. Lbs. Butterfat per Cow
1914.....	5418	269.9
1915.....	5594	283.4
1916.....	5923	308.5
1917.....	5974	313.9
1918.....	6729	345.6
1919.....	6608	339.4
1920.....	6806	338.2
1921.....	7136	356.9
1922.....	6865	358.6

What are the Duties of the Supervisor?

When the supervisor arrives at a farm, his first duties are to take his case and sample bottles to the barn and see that all sample bottles are properly labeled so that he will not delay the farmer at milking time. He should hang scales in a light place and close to where the farmer empties his milk. The farmer should have an open-top milk pail for the supervisor, and the supervisor should regulate his scales for this pail.

The next duty of the supervisor is to watch the farmer feed his cows, and, if the farmer weighs all feed, the supervisor should record the number of pounds fed each cow. In case the farmer does not weigh the feed, the supervisor should record the number of measures of feed that is fed each cow. Before the supervisor figures out his record books, it will be necessary for him to weigh several measures of this feed and from that calculate the amount of grain fed each animal. The same procedure should be followed with silage, but with hay and corn stover the supervisor and farmer will have to estimate the amount fed each cow.

At milking time the supervisor should be on hand to weigh each cow's milk. Those milking should pour the milk in the pail the tester uses, and call the name and number of the cow. The tester should weigh the milk very carefully, record it in his barn book, and if the farmer has a milk sheet, record it on the milk sheet. The supervisor should then pour the milk back and forth from one pail to another several times, until it is thoroly mixed, then dip out a pint tin cup nearly full and empty the pail of milk in a can. With his 10

cubic centimeter pipette, pipette not less than 30 cubic centimeters out of the pint cup into the sample bottle labeled for this cow. This will be the evening's portion of composite sample for this cow.

In making up a composite sample of each cow's milk, the supervisor should use aliquot parts of both evening's and morning's milk. It is always advisable to put on the label of each bottle the number of cubic centimeters of milk used for each pound of milk. For example, if cow No. 1 produces 10.1 pounds of milk at night, take 3 cubic centimeters of milk for each pound to make the composite, or 30.3 cubic centimeters; put in cow No. 1 composite bottle and mark "3 cubic centimeters" on the label. In the morning, if the same cow produces 9.6 pounds of milk, pipette 3 cubic centimeters of milk for each pound into the same bottle. Thus, 28.8 cubic centimeters of morning's milk would be added to 30.3 cubic centimeters of evening's milk, or a total of 59.1 cubic centimeters of milk in the composite bottle for cow No. 1. Carry on this performance for each cow.

In the case of a cow giving between 30 and 40 pounds of milk at a milking, take only 1 cubic centimeter of milk for each pound to make up the composite.

After the milking is completed and the samples are taken, the supervisor, after locking the samples up in his case, should make sure that they are put in a cool place, in the summer time, so that they will not sour; and in the winter, in a place where they will not freeze. If there is danger of the samples souring, it might be well to use a preservative in each bottle. About one-half of a corrosive sublimate or formaldehyde tablet for each sample is sufficient.

After supper, the supervisor and farmer should talk over the way each cow is fed, whether or not she is normal; the way the farmer disposes of his dairy products; and the prices set by the board of directors for the products and feeds. The supervisor should find out the usual time that the farmer milks in the mornings, so that the usual schedule may be followed. He should have his own alarm clock and not rely on the farmer to call him.

The morning duties of the supervisor are similar to his evening work. In case the farmer feeds each cow the same ration in the morning as evening, the supervisor can duplicate the evening record. Otherwise, it will be necessary to record feed fed each cow. If the farmer has changed his rations for any of the cows since the first of the month, or expects to change before the end of the month, the supervisor should be notified of the change.

The milk from each cow should be weighed and sampled the same in the morning as in the evening. In case a farmer sells whole milk, it is well for the supervisor to take a composite sample of all of the cans of night and morning milkings so that the farmer may have a check on the milk plant. Such a test also furnishes a check for the supervisor when he is working out his monthly herd average.

Before the supervisor goes to breakfast, it is advisable for him to see that a sufficient amount of water is on to heat. In case the farmer does not have an ideal testing-room, it may be necessary to use the kitchen during the cold season of the year and the back porch or some other convenient place during warm weather. As soon as breakfast is over the supervisor should apply the Babcock test on each composite sample. It is not necessary to run duplicate tests, but the composite samples should not be destroyed until an accurate test is obtained which will be considered as the average test of each cow for the month.

When a supervisor makes his test in the kitchen, he should be careful not to spill acid or make any dirt. As soon as all tests are made, empty the test bottles on the ash pile or in the road, so as not to kill any vegetation. Always make sure that the bottle of acid and composite bottles of milk are out of reach of any small child. As soon as tests are completed, the centrifuge should be put in its place, any muss made in the kitchen cleaned up, the composite sample bottles emptied, thoroly cleaned and placed in the proper place, and the acid promptly and properly cared for. In case preservatives were used, the composite milk should be emptied in a place where nothing can get to it. The Babcock glassware should be thoroly cleansed, packed in the case, and placed on the back porch ready to move to the next herd.

The supervisor is now ready to compute the monthly records of each cow. It is always advisable to compute the records in the barn book first and check them before writing them in the herd book and ledger. Each item of the cow's record is computed on a monthly basis by multiplying her daily record by the number of days in the month. In case a farmer keeps his own milk weights, the herd book and ledger will be a month behind for the total pounds of milk, butterfat, value of product, and profit or loss over the feed cost. Where there are from 20 to 30 cows in a herd, it will be necessary for the farmer to help total the milk sheets.

The following rules should be followed in copying the records into the herd books and ledger.

1. Use ink.
2. Be neat and careful.
3. Check the work.
4. Fill out as completely as possible the information asked for at the top of the individual record sheets in the ledger and herd book the first month the herd is tested.
5. Fill out the monthly herd record in each herd book.
6. Enter all records of all cows in the herd book and ledger, whether they are dry or on official test.
7. In case a cow is not normal the day the test is made, average the previous and following months' records and record the average. In case there is no previous month, use the following month's record. In case there is no following month, use the previous month's record.
8. The record for a cow vealing a calf should be recorded in the same manner as No. 7.
9. The record for a missing test should be recorded the same as No. 7.

At the end of the year total in both the herd book and ledger all milk, butterfat, and feed records, value of product, feed costs, and profit or loss records of all cows that have been in the association four or more months, whether the cow has died, been sold, or test discontinued. This record must be completed and the ledger mailed to the Dairy Department, The Ohio State University, within a few days after the association year is ended.

The supervisor should always be willing to give advice on feeding or get the advice from the county agent or dairy specialists. He should work with the Farm Bureau at all times in helping to get orders for feeds. The supervisor should carry a price list of all surplus stock that the members have for sale. The supervisor should meet with the president, vice-president, or secretary-treasurer and the county agent at the end of each month, check up on the work and make a report.

What Is the Necessary Cost to Each Member?

It is necessary to tax each member a fixed sum in order to pay all expenses. The largest item, of course, is the supervisor's salary. That will vary, depending on whether or not he furnishes his own means of conveyance.

The following are the items of expense for one year:

Supervisor's salary, without conveyance.....	\$ 840.00
Centrifuge.....	20.00
Milk scales.....	5.00
Sulphuric acid.....	20.00
Glassware breakage.....	15.00
Incidentals.....	15.00
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Total without conveyance.....	\$ 915.00
Conveyance.....	240.00
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Total with conveyance.....	\$1,155.00

The variation in expense will be from \$36 to \$45 per year, depending on whether or not the supervisor furnishes his own means of conveyance.

Why a Business Organization?

It is always necessary for each member to sign the application blank and two notes, or else the members should pay cash in advance, as the association is organized to operate on the lowest expenses possible, and if any member drops out without paying his full year's dues the association must suffer. In too many cases, associations have gone defunct, because a number of its members were not signed up properly, dropping out and not paying their dues.

How to Elect Officers.—The ideal method to follow is to get 26 dairymen to sign the membership blank and two notes before a meeting is called to elect the directors and officers. However, the following method is practical, and is often followed: When more than one-half of the 26 members are signed up for an association, a meeting is called. The first step necessary is to elect a temporary chairman. The next step is to divide the association into five communities and nominate one or more directors from each community. The directors may then be elected by ballot from each community. As soon as the five directors are elected, they should elect their president, vice-president, and secretary-treasurer by ballot so as to have a working organization to complete the association if it is not already completed.

The Duties of the Officers.—The board of directors employ the supervisor, plan his route, and fix the feed, milk, and butterfat prices each month. Any complaints or disputes are referred to the board to settle.

The president may call special meetings, and presides at both regular and special meetings. In case of illness or inability to act, the vice-president acts for the president and takes charge of the meetings.

The secretary-treasurer collects all dues, orders all supplies, and pays all bills including the supervisor's salary.

Either the president, vice-president, or secretary-treasurer should meet in the county agent's office at the end of each month, check over the supervisor's ledger, and help the county agent get out a report for the papers. All records for each month should be complete before the supervisor is paid his monthly salary. Before the secretary-treasurer pays the supervisor his salary and bonus, the secretary-treasurer should be notified by the dairy specialist if the ledger is satisfactory, and by each of the members if their herd books are balanced up satisfactorily.

Duties of the Members.—The members should have on hand at all times plenty of sulphuric acid of the proper strength. They should have suitable sample bottles. If a mistake is found in the records, it should be called to the attention of the supervisor in a kindly way. The members should notify supervisor when rations are changed, when a cow is not normal, when a cow has been sold, when a cow has been added to the herd, and the date a cow freshens or is dried off. They should be fair and honest with supervisor as well as with themselves.

Members should study their own record book and ledger and attend all meetings. They should endeavor to improve their production record each year, and, if their herd is one of purebreds, they should study breed type. Members should treat the supervisor as one of the family. In case a member is doing semi-official testing, along with cow-testing association work, he should have 3 days of the supervisor's time each month; without cow-testing association work, 2½ days.

How Should Interest be Maintained?

In order to keep up interest and enthusiasm it is desirable to have a report published in the local paper at the end of each month, and the yearly report in one of the leading dairy papers in addition to the local paper. Both these reports should be prepared by the county agent and the supervisor jointly.

The monthly report should include the following data:

1. Owner's name, and the age, breed, and pounds of butterfat or of milk of each cow on test, over 3½ years of age, that has produced 50 pounds butterfat or 1200 pounds milk in the month.
2. Same as No. 1, under 3½ years of age, that has produced 35 pounds butterfat or 900 pounds milk.
3. The herds averaging highest in butterfat and in milk.
4. The herds averaging lowest in butterfat and in milk.
5. Any new facts of interest pertaining to dairy work of the members of the association.

Do not include in the report herds that do not have all their cows listed, either dry or in milk. No herd of less than 5 cows can be counted in the high or low herd average in milk or butterfat.

The yearly report should include:

1. The average number of pounds of milk and butterfat per cow, with names and addresses of owners.
2. Record of the herds that have averaged highest in milk and butterfat for the year; the breed; and names and addresses of owners.
3. Record of the herds that have averaged lowest in milk and butterfat for the year; the breed; and names and addresses of owners.
4. Yearly milk records of the six high cows in the association, over 3½ years of age; the breed; and names and addresses of owners.
5. Same as No. 4, but under 3½ years of age.
6. Butterfat records of the six high cows in the association, over 3½ years of age; the breed; and names and addresses of owners.
7. Same as No. 6, but under 3½ years of age.
8. Yearly milk records of the six low cows in the association, over 3½ years of age; the breed; and names and addresses of owners.
9. Same as No. 8, but under 3½ years of age.
10. Yearly butterfat records of the six low cows in the association over 3½ years of age; the breed; and names and addresses of owners.
11. Same as No. 10, but under 3½ years of age.

12. A comparison of the average profit of the 24 high and the 24 low cows.
13. Any other comparisons that the county agent thinks suitable.

Herds containing less than 5 cows for any part of the 12 months, and the entire herd if listed for less than 12 months, must be eliminated from the high or low herd average in milk or butterfat.

The Value of a Cow-testing Association Exhibit at the County Fair:

The county agent should help to keep up the interest in the cow-testing association. An exhibit at the county fair is a great factor in this respect. One of the following exhibits will attract a good deal of attention:

Have four groups of cows with one or more in each group—

Group I should bring out good dairy type with high production.

Group II should bring out poor dairy type with high production.

Group III should bring out good dairy type with low production.

Group IV should bring out poor dairy type with low production.

Over each cow, have a card with her yearly milk and butterfat production, covered by a blank card. Have a large sign properly located, with this wording:

“Place the cows according to their yearly butterfat records
or yearly milk records before looking at the cards.”

Such an exhibit will show the non-members the value of cow-testing associations.

Another exhibit could include two groups of cows, four in each group. The first group should include two cows and a daughter from each, out of the same sire. The daughters' yearly records should show an increase over their dams. The second group should include two cows and a daughter from each out of the same sire, but in this case the daughters should show a decrease in production. Such an exhibit points out the value of record keeping in selecting the right kind of a sire.

In case of a competitive exhibit among members at a county fair it is advisable for each member to exhibit three cows and the basis for award will be on the group of three cows. They should be judged on both individuality and production, 40 points of individuality and 60 points on the yearly milk and butterfat production. Age, of course, should be taken into consideration.

What Will the County Agent and Dairy Department Do for the Association?

The county agent should know all the members of the association, and in case some member is losing interest, he should make a special trip to this dairy, go over the record book, point out its values, and do his best to get the dairyman interested. The county agent should know of all trouble that arises and help to get it settled. He should also keep a close check on the supervisor and in case the supervisor is having trouble in keeping everybody satisfied, the county agent should try to locate the difficulty. In case the supervisor cannot give satisfaction or expects to resign, the county agent should get word to the Dairy Department, Ohio State University, at once so that another man can be trained for the position. The county agent should send all news and monthly reports to the press. He should also have a list of all the members' surplus stock for sale. The county agent should try to attend all cow-testing association meetings and especially the one at the end of the first 6 months and the one at the end of the year. The county agent is in charge of the association and the supervisor.

The Dairy Department trains the supervisors and summarizes all records, and furnishes the county agent with a copy of the summary.